

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 34354P WO-1	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2005/002255	International filing date (<i>day/month/year</i>) 03 March 2005 (03.03.2005)	Priority date (<i>day/month/year</i>) 06 March 2004 (06.03.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant WEPPNER, Werner			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 01 November 2006 (01.11.2006)
	Authorized officer Agnes Wittmann-Regis e-mail: pt06@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

TRANSLATION

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing **See form PCT/ISA/210**
(day/month/year)

Applicant's or agent's file reference

34354P WO-1

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/EP2005/002255

International filing date (day/month/year)

03.03.2005

Priority date (day/month/year)

06.03.2004

International Patent Classification (IPC) or both national classification and IPC

C01 G33/00, C01 G35/00, C01 G1/02, C01 B21/082, C04B35/495, H01 M10/40, H01 M6/18, H01 M8/12, H01 B1/12

Applicant

WEPPNER, Werner

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/002255

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

This opinion has been established on the basis of a translation from the original language into the following language

_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

REQUEST AVAILABLE COPY

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/002255

Box No. II

Priority

1. ☐ The following document has not yet been furnished:

☐ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date in the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis1 and 64.1) is the claimed priority date.

BEST AVAILABLE COPY

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/EP2005/002255

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1, 4, 7, 9, 10, 16	YES
	Claims	2, 3, 5, 6, 8, 11-15, 17, 18	NO
Inventive step (IS)	Claims	1, 4, 7, 9, 10, 16	YES
	Claims	2, 3, 5, 6, 8, 11-15, 17, 18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

2. Citations and explanations:

1) Reference is made to the following documents:

- D1: THANGADURAI, VENKATARAMAN ET AL: "Novel fast lithium ion conduction in garnet-type $\text{Li}_5\text{La}_3\text{M}_2\text{O}_{12}$ (M = Nb, Ta)" JOURNAL OF THE AMERICAN CERAMIC SOCIETY, 86(3), 437-440, XP002329148
- D2: MAZZA, D.: "Remarks on a ternary phase in the lanthanum sesquioxide-metal oxide (M_2O_3)-lithium oxide system (M = Nb, Ta)" MATERIALS LETTERS, 7(5-6), 205-7, 1988, XP002329149

2) Novelty - PCT Article 33(1) and (2)

D1 discloses $\text{Li}_5\text{La}_3\text{M}_2\text{O}_{12}$ (M = Nb, Ta) having a garnet-like structure as solid lithium ion conductor for use in, for instance, accumulators and fuel cells, for example in the form of pellets. It is prepared in a solid-state reaction of the salts of the participating elements which are mixed and subsequently heat treated, in accordance with the process in claim 15. The ion conductivity of $\text{Li}_5\text{La}_3\text{Ta}_2\text{O}_{12}$ is 3.4×10^{-6} S/cm. In view of D1, novelty can therefore not be acknowledged for claims 2, 3, 5, 6, 8, 11-13, 15, 17 and 18.

D2 discloses $\text{Li}_5\text{La}_3\text{M}_2\text{O}_{12}$ having a garnet-like structure. It is prepared in a solid-state reaction of the salts of the participating elements which are mixed and subsequently heat treated. Pressing to form pellets follows. In view of D2, novelty can therefore not be acknowledged for claims 2, 3, 5, 6, 8 and 11-14.

BEST AVAILABLE COPY